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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,858	12/01/2003	Markus Glocckle	10191/3431	2827

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EXAMINER	
MENON, KRISHNAN S	
ART UNIT	**PAPER NUMBER**
1723	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/725,858	GLOECKLE ET AL.	
	Examiner	Art Unit	
	Krishnan S. Menon	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) *8-10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-10 are pending, of which 8-10 are withdrawn from consideration as amended 1/16/07

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Waycuilis (US 5,149,340).

Waycuilis teaches a method of separating lower boiling hydrocarbons from a hydrocarbon mixture using a membrane, and using a sweep gas – figures, abstract, examples and table 1B. Regarding the pervaporation membrane, the reference teaches that the use of semipermeable membranes is well known for separating hydrocarbons and describes the process of pervaporation (see column 1 lines 25-346); pervaporation membrane is a semipermeable membrane. Permeate has a lower boiling point than the retentate – see Table 1B.

Regarding the limitation, 'permeate that is aromatics enriched', the reference teaches the generic process of removing impurities from hydrocarbons, and membranes or membrane modules designed to permit passage of specific impurities normally desired to be removed from hydrocarbons are readily available commercially, which would anticipate this limitation. See column 3 line 55 – column 4 line 15. Applicant identifies aromatics as a 'hardly combustible' impurity (Pre-Grant Publication, paragraph 0006).

In addition, under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). The apparatus of the reference is inherently capable of performing the separation claimed.

Fuel supplied for operating a motor vehicle or turbine would be an intended use of the product made by the process. Closed circuit for scavenging gas (fuel gas) – see figures in the reference.

2. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Partridge et al (US 6,972,093).

This reference teaches all the limitations claimed in the instant claims. The sweep gas is inherent, and is inherently air, since the circuit between the permeate side

1105 of the membrane 1101 and the condenser 130 would inherently contain air. The process uses separating gasoline into higher octane (lower boiling) and lower octane (higher boiling components), and it is supplied to an engine.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15. It also appears that the German application with priority date 11/29/02 may not have sufficient disclosure to support the claim limitations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al (US 2002/0139111) in view of Waycuilis.

Ueda teaches a fuel supply apparatus of an internal combustion engine having a membrane that separates octane and the lower boiling components into a permeate stream and the others in to a concentrate stream, and a condenser for accumulating the components in the permeate stream. Aromatics in the permeate would be inherent. The teaching of the reference differs from the claims in the use of sweep gas. Waycuilis teaches a similar process with sweep gas, which, Waycuilis teaches, would improve the process, such as more efficiency, improved separation, reduced membrane area,

reduced losses, etc. (see column 8 lines 18-29 and column 4 lines 25-61). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Waycuilis in the teaching of Ueda to have the sweep gas to improve the process as well. With respect to the use of air, since the Ueda system is actually mounted in a vehicle, it would be obvious to one of ordinary skill in the art at the time of invention to use air as sweep gas instead of providing a separate gas stream such as fuel gas.

Response to Arguments

Applicant's arguments filed 1/16/07 have been fully considered but they are not persuasive.

With respect to the Patridge reference, applicant has not supplied the translation as yet; the German priority document of 11/29/02 also does not seem to support the claimed invention, as stated in the last office action.

With respect to Wycullis, arguments are not persuasive; see the rejection.

With respect to the 103 rejection over Ueda in view of Wycullis: Applicant argues that (1) there is no motivation to combine, and (2) the combination is untenable because Ueda teaches a process based on high pressure and low pressure sides of the membrane, and use of vacuum pump, and that the sweep gas would be normally destroyed under continuous supply of sweep gas.

With respect to a motivation to combine, any improvement in the process would provide a good motivation to combine – please see the rejection.

With respect to the combination being untenable: membrane processes require a pressure differential between the feed and permeate side. Thus the feed side is inherently under higher pressure than the permeate side. Wycullis teaches that use of vacuum pumps or compressors in the permeate side can e avoided by using sweep gas. There is also no reason to believe that use of sweep gas would destroy the vacuum pump (or compressor; a compressor is also a vacuum pump, both produce lower pressure at the suction side and higher pressure at the discharge side). Use of sweep gas, vacuum pump, or compressor, or their combination, is to improve the partial pressure difference between the feed and permeate side of the membrane for the permeating species, and also to move the permeated gases away. Moreover, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Krishnan S Menon

1/29/07

Primary Examiner
Art Unit 1723